PHS98

HEALTH CARE UTILIZATION AND COSTS ASSOCIATED WITH COMORBID OBESITY IN ADULTS WITH TYPE 2 DIABETES MELLITUS FROM A NATIONALLY REPRESENTATIVE US POPULATION

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OBJECTIVES: To assess health care resource utilization (HRU) and costs associated with comorbid obesity in patients with type 2 diabetes mellitus (T2DM) from a nationally representative US sample. **METHODS:** The 2009 Medical Expenditure Panel Survey was analyzed to identify adults (≥20 years) with diabetes (ICD-9-CM: 250). T2DM was identified if one of the following criteria was met: 1) evidence of ≥1 oral or non-insulin injectable anti-diabetic medication; 2) diagnosis of diabetes after age 30; 3) diagnosis before age 30 and not on insulin monotherapy. Pregnant women were excluded. Annual HRU and costs were compared for individuals with T2DM based on the presence of comorbid obesity (BMI≥30 kg/m^2). A generalized linear regression model adjusting for patient demographic and clinical characteristics was performed to assess the association between comorbid obesity and total health care costs. Population weights were applied to account for the multi-stage sampling design to produce nationally representative estimates. **RESULTS:** Of the 2,269 T2DM patients (representing 19.2 million individuals in the US), 54.5% were obese. Obese T2DM patients were more likely to be younger (59 vs. 65 years; p<0.01) than non-obese T2DM patients. Obese T2DM patients had similar inpatient hospital (17.8% vs. 17.9%; p=0.99) and emergency room (21.7% vs. 19.5%; p=0.33) utilization but utilized more outpatient hospital visits (33.3% vs. 27.9%; p=0.03), had more prescription medication fills (48.0 vs. 37.1, p<0.01) and higher total health care costs ($12,009 vs. $10,081, p=0.02) than non-obese T2DM patients. After controlling for age, gender, race, income, insured status and comorbidities, obese T2DM patients had total health care costs of 1.19 times those of the non-obese T2DM patients (p=0.04). **CONCLUSIONS:** Obesity appears to be associated with higher health care costs in T2DM patients. Effective weight management in T2DM patients may be cost-effective and should be considered in diabetes treatment plans.

PHS99

TO IDENTIFY COMORBID DEPRESSION IN DIABETES PATIENTS AND COMPARING THE DIFFERENCES IN USE OF HEALTH CARE SERVICES IN DIABETIC PATIENTS WITH AND WITHOUT COMORBID DEPRESSION

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OBJECTIVES: To assess the effect of comorbid depression on rates of health care resource utilization in patients with diabetes. **METHODS:** We carried out a secondary analysis of data from 2008 Medical Expenditure Panel Survey for the year. In contrast to previous research, we identified diabetes and comorbid depression among the adult population by using their self-report. People with diabetes were identified by examining their self report regarding a diabetes diagnosis. We identified patients with diagnosed and undiagnosed depression by using a score of ≥3 on the two-item Patient Health Questionnaire. This unique method of identifying depression has been validated elsewhere. We calculated odds ratios for having depression in respondents with and without diabetes adjusting for demographic factors. We compared the mean unadjusted health care utilization rates in the diabetic people with and without depression. We also assessed the factors that were associated with incidence of comorbid diabetes and the use of health care services. **RESULTS:** In the year 2008, 2381 respondents suffered from diabetes while 400 respondents suffered from comorbid depression. Diabetics were more likely than non-diabetics to suffer from depression (Adjusted OR 1.20, 95% CI 1.05–1.37). People suffering from this comorbidity were more likely to be females, married, Hispanic and have a lower poor income level. The mean emergency room visits (0.90 vs. 0.41 p<0.001), the mean outpatient visits (19.62 vs. 16.22 p<0.001) and the mean office based visits (215.1 vs. 159.3 p=0.003) were higher in diabetic patients with depression. In the adjusted analyses, depression was associated with an increase in the use of health care resources. **CONCLUSIONS:** Utilizing a unique way to identify diabetes and depression in the general population, we found that the likelihood of suffering from depression is higher in case of diabetics. Comorbid diabetes and depression is associated with higher use of health services.

PHS100

REDUCING TOTAL HEALTH CARE COSTS BY SHIFTING TO OUTPATIENT (OP) SETTINGS OF CARE FOR THE MANAGEMENT OF GRAM+ ACUTE BACTERIAL SKIN AND SKIN STRUCTURE INFECTIONS (ABSSSI)

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OBJECTIVES: Rising health care costs and financial penalties have necessitated treatment strategies for ABSSSI that avoid hospital admissions and reduce length of stay (LOS), hospital acquired infections (HAIs), and readmissions. Providing parenteral antibiotic therapy in OP settings provides an opportunity to shift care outside the hospital to free hospital beds and reduce additional LOS from HAIs. This analysis estimated, from a US payer perspective, cost offsets of treating gram+ ABSSSIs with varied hospital LOS followed by OP care. **METHODS:** Economic drivers of care were estimated using a literature-based economic model incorporating inpatient (IP) and OP components. The model incorporated equal efficacy, adverse events (AE), resource use, and costs from literature and public sources. Once and twice daily OP infusions to achieve a 14-day treatment were tested to determine cost offsets shifting IP days to OP days. Sensitivity analyses were performed. Costs were adjusted to 2012US$. **RESULTS:** Total non-drug medical cost for ABSSSI ranged from $8,790-$15,968 for 3 and 7 days IP, respectively, while treatment entirely OP to avoid admission ranged from $3692-$4353. IP medical costs included IP bed-day ($1853) and AE costs ($343). OP care included either daily home care ($194) or infusion center fee ($154), PICC line with fluoroscopy ($786), PICC complications ($188), labs ($102), and physician visit ($222) for evaluation of ABSSSI. IP versus OP cost breakdown was: 3 days IP ($5,902)/11 days OP ($2,888-$3,429); 7 days IP ($13,314)/7 days OP ($2,273-$2,654). Sensitivity analyses revealed OP cost drivers to be IV days, infusion/OP care costs, and PICC costs versus LOS, bed-day cost, and IV days for IP drivers. **CONCLUSIONS:** Shifting ABSSSI care to OP settings may result in cost savings up to 44%, with potential to prevent HAIs. Typical OP scenarios represent ~33% of total medical cost, with PICC accounting for 28-43% of OP burden. Value of new ABSSSI therapies will be driven by eliminating need for PICC line and ability to reduce/avoid hospital days.

PHS101

A COMPARATIVE ANALYSIS OF CVP STRUCTURE OF NONPROFIT TEACHING AND FOR-PROFIT NON-TEACHING HOSPITALS

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Due to the market turbulence facing the hospital industry, the financial viability of teaching hospitals has been severely threatened. Their missions of education, research, and patient care even strengthen this crisis. Therefore, the objective of this study is to conduct a comparative analysis of the cost, volume, and profit (CVP) structure between large nonprofit urban teaching hospitals and small for-profit rural/suburban non-teaching hospitals. The following two hypotheses were developed: 1) large nonprofit urban teaching hospitals tend to have higher fixed cost, lower variable cost, lower total revenue adjusted by case mix index (CMI), and lower return on total assets (ROA), and 2) small for-profit rural/suburban non-teaching hospitals tend to have lower fixed cost, higher variable cost, higher total revenue adjusted by CMI, and higher ROA. Using 117 teaching hospitals and 102 non-teaching hospitals selected from the Medicare Cost Report database in 2005, the results from multiple regression indicated that large nonprofit teaching hospitals located in urban areas are more likely to have higher fixed cost and lower variable cost. While such cost structure doesn't necessarily affect their total revenue adjusted by CMI, it does lead to a lower return on hospitals' total assets. The results support our hypotheses in terms of fixed cost percentage, variable cost percentage, and ROA, but not total revenue adjusted by CMI. The results suggest that cost structure is significantly associated with hospitals' performance. Also, as teaching hospitals' portfolios of services and programs increase (*e.g.*, provision of uncompensated care to Medicare and Medicaid patients and doing research), it becomes strategically necessary and critical to manage the allocation of resources or investments into the fixed capital that supports the business.

PHS102

SUPLEMENTARY HEALTH CARE UTILIZATION RESEARCH IN BRAZIL: CHARACTERIZATION OF THE BI.2IM DATABASE

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OBJECTIVES: The BI.2IM Project started in 2010 to improve costs control and register resource utilization of several Brazilian HMOs based on an already established (2007) administrative database. The project has evolved in 2011 for another utilization related to payment for performance (P4P) and evaluation of standard of resource utilization (in-hospital and medical office based data), allowing to follow identified patients over prolonged periods of time and to study the quantity and cost of health care services provided. Therefore, this 5 million lives database (BI.2iM) probably allows retrospective health care resource utilization studies based upon the registered data and their related costs. The aim of this study is to verify if BI.2iM database is statistically comparable with the total Brazilian Private Healthcare population in terms of regional distribuition, gender and age. **METHODS:** The sample quantity of patients was statistically compared with the total private market population in terms of regional distribution and gender. Other available information was accessed and compared too. **RESULTS:** The sample compares well to the national private market population (sample error of 0,044%) as well as in terms of regional distribution. The BI.2iM database can be searched by ICD10 code, Brazilian codes for procedures and tests and allows follow up of the patient's treatment. **CONCLUSIONS:** The BI.2iM sample constitutes a well-characterized supplementary health study population statistically comparable to the national private market population. Its results extrapolated to the total supplementary health care together with the public health care database (DATASUS) may enable evaluation the total Brazilian Healthcare market.

PHS103

OUTPATIENT VISITS FOR SCHIZOPHRENIA IN THE UNITED STATES: A NATIONALLY REPRESENTATIVE ANALYSIS USING NAMCS AND NHAMES DATA

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OBJECTIVES: To characterize the outpatient visits for schizophrenia in the United States in comparison to major depressive disorder (MDD) and general outpatient (GOP) visits. **METHODS:** The National Ambulatory Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) data from 2003 to 2010 were pooled and weighted to provide national level estimates. Using ICD-9 codes, visits were classified as schizophrenia (295.xx) or MDD (296.2x-296.3x) visits; all others were classified as GOP visits. Estimation methods accounting for the surveys' multistage sampling procedures provided percent-